

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
31 July 2003 (31.07.2003)

PCT

(10) International Publication Number
WO 03/062683 A1

(51) International Patent Classification⁷: F16K 5/06

(21) International Application Number: PCT/US03/01351

(22) International Filing Date: 17 January 2003 (17.01.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/349,629 18 January 2002 (18.01.2002) US

(71) Applicant (for all designated States except US):
SWAGELOK COMPANY [US/US]; 29500 Solon
Road, Solon, OH 44139 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): TIMKO, Jared,

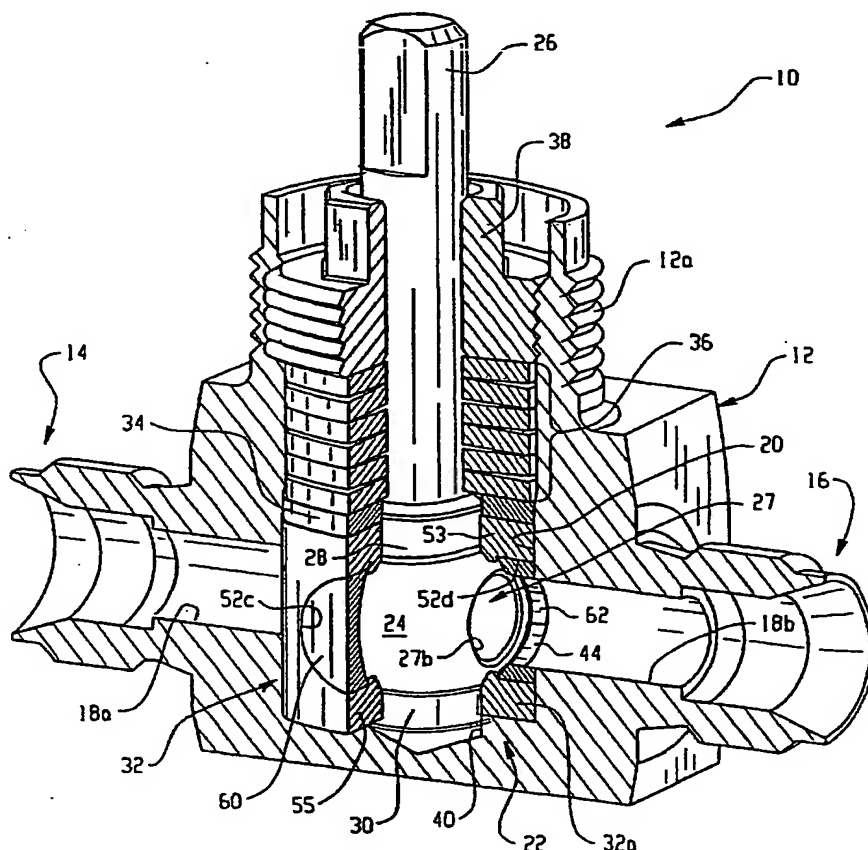
S. [US/US]; 7850 Champaign, Mentor, OH 44060 (US).
LIPPUCCI, Thomas, A. [US/US]; 73 E. Dartmoor Av-
enue, Seven Hills, Ohio 44131 (US). KVARDA, Eric, M.
[US/US]; 6490 Bryson Drive, Mentor, OH 44060 (US).
FRY, Brandon, J. [US/US]; 10325 Penniman Drive,
Chardon, OH 44024 (US). GOTCH, James, E. [US/US];
8900 Riverwood Way, Kirtland, OH 44094 (US).

(74) Agents: LEWIS, Leonard, L. et al.; Calfee, Halter &
Griswold LLP, 1400 McDonald Investment Center, 800
Superior Avenue, Cleveland, OH 44114 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC,
LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SC, SD, SE,
SG, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ,
VC, VN, YU, ZA, ZM, ZW.

[Continued on next page]

(54) Title: BALL VALVE WITH SINGLE PIECE PACKING



(57) Abstract: A ball valve includes a valve element (22) and a single piece packing (32) that seals the valve element within a valve cavity (20). The single piece packing is installed over the valve element at room temperature or may be molded thereon. The valve element may include a flow control element such as a ball (24) and upper (28) and lower (30) trunnions. The various dimensions of the valve element and packing are selected to facilitate room temperature assembly and to substantially reduce the volume of packing material, thereby improving the performance of the valve over wider temperature ranges and pressure ratings.

WO 03/062683 A1